HATCH WINDOW AS A QUALITY INDICATOR OF DAY OLD CHICK IN TERMS OF ECR (EGG CONVERSION RATIO), IB (INFECTIOUS BROCHITIS) AND IBD (INFECTIOUS BURSAL DISEASE) MATERNAL ANTIBODIES VALUE IN LAYER

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ABSTRACT

The aim of this study was to determine the most effective hatch window as a quality indicator of day old chick in terms of egg conversion rasio (ECR), infectious bronchitis (IB) and infectious bursal disease (IBD) maternal antibodies values in layer. This study used serums of 90 layer's DOC were obtained from three hatch windows groups, on age one day with body weight average 38 grams. Day old chicks blood serums were taken in accordance with hatch window grouping, including HW 1 group (33-23 hours before pullchick), HW 2 (23-13 hours before pullchick), and HW 3 (13 hours before pullchick). The values of ECR, IB and IBD maternal antibodies were analyzed statistically by using one-way ANOVA. Indirect Enzyme-Linked Immunosorbent Assay (ELISA) was used in this study to measure values of IB and IBD maternal antibodies. The results of this study show that there are significant differences ($p<0.05$) in values of ECR, IB and IBD maternal antibodies. The HW 1 and HW 2 groups showed the highest results of IB and IBD maternal antibodies levels. IB maternal antibodies levels of HW 1 and HW 2 groups are 4764.8333 ± 2385.0905 and 4858.2667 ± 1810.5150, respectively. IBD maternal antibodies levels of HW 1 and HW 2 groups are 6483.2333 ± 1816.3099 and 7238.2333 ± 1559.0825, respectively. HW 3 group showed the lowest value of ECR 1.5471 ± 0.0499, the result was not significantly different from the HW 2 group with an ECR value of 1.5586 ± 0.0502. It can be concluded that HW 2 group (hatch window 23-13 hours before the pullchick) is the most effective hatching time in terms of ECR, IB and IBD maternal antibodies values among hatch windows in this study.

Keywords: Hatch Window, Egg Conversion Ratio, Infectious Bronchitis, Infectious Bursal Disease, Maternal Antibodies.